

ABSTRACT OF THE DISCLOSURE

A solid oxide fuel cell in which the catalytic activity of a fuel electrode is high and in which no poisoning by carbon occurs even when internal reforming is performed under a condition of a low S/C ratio and further in which the time course degradation of the fuel electrode is less when internal reforming is performed. In a solid oxide fuel cell having an oxide ion conductive solid electrolyte, and a fuel electrode and an air electrode connected to both faces thereof, a cermet of a catalyst and of the second solid electrolyte whose oxide ion conductivity is more than or equal to 0.2 S/cm at 1000 °C is used as the fuel electrode. More specifically, it is desirable that the second solid electrolyte is scandia-stabilized zirconia (ScSZ) containing 9 to 12 mol% of scandia. In addition, the second solid electrolyte may further be ScSZ containing yttria or ceria less than or equal to 2 mol%. Furthermore, the second solid electrolyte may be a composite material of ScSZ and alumina less than or equal to 2 wt%.

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